



Lewis and Clark Multi-Use Trail Study

*A
Trail for
Contemporary
Explorers*

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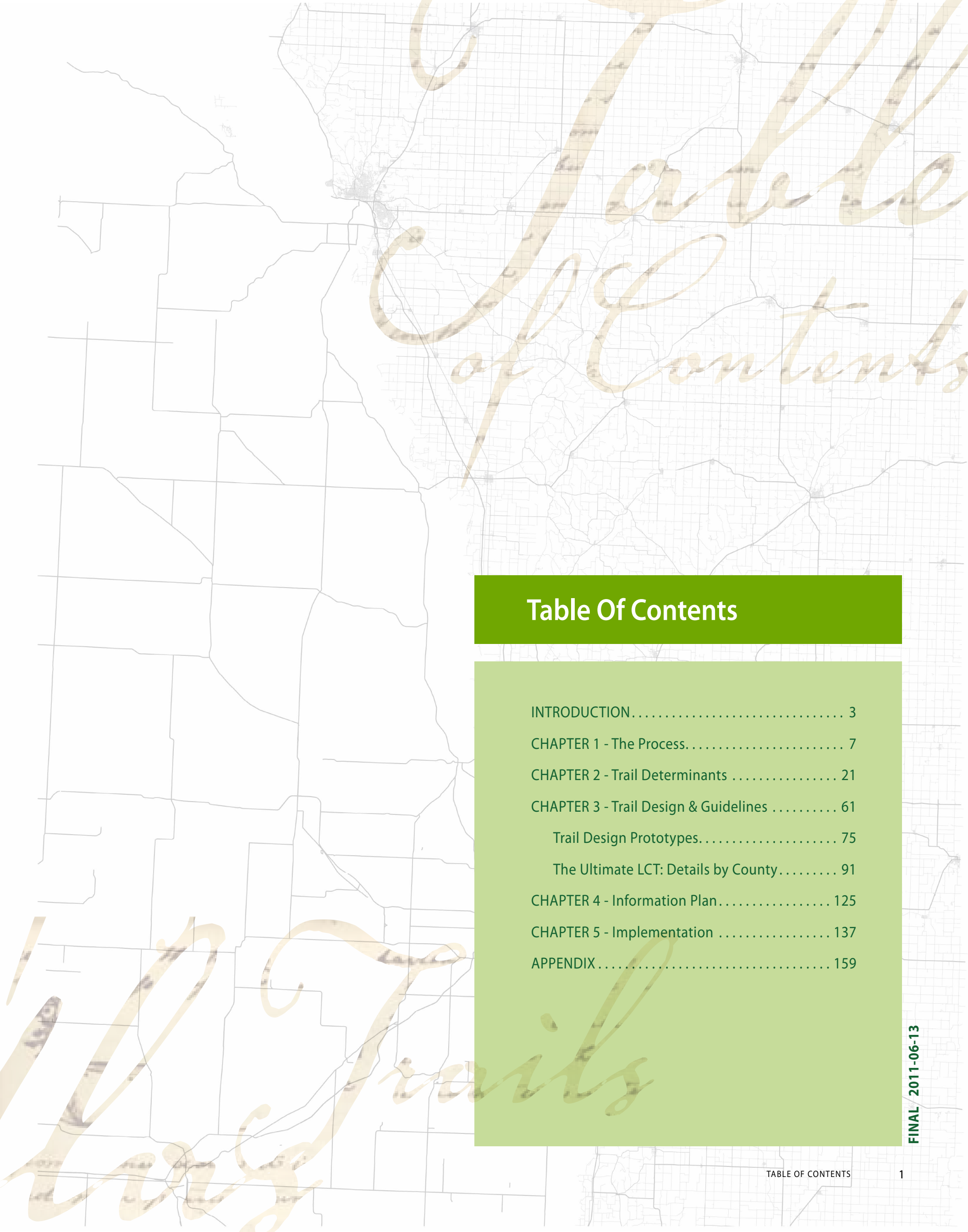


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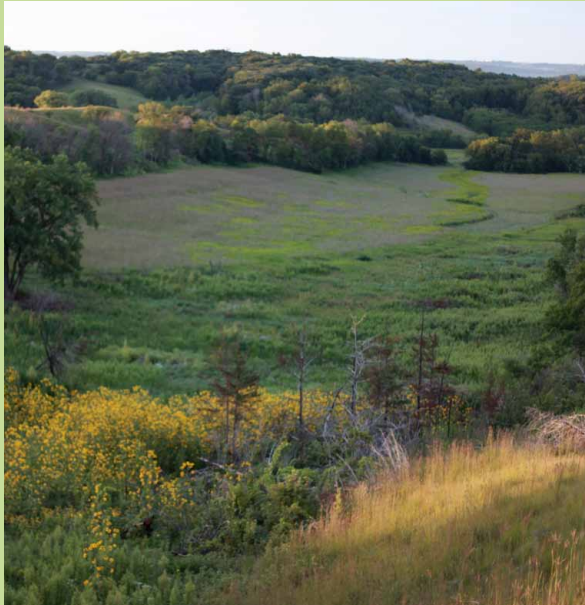
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Introduction



Preparation Canyon State Park



Rural Harrison County



"Spirit of Discovery"

The Lewis and Clark Multi-Use Trail Study:

Building a Trail for Contemporary Explorers

Iowa's Missouri River Valley is an environment of remarkable riches on many levels. The great American explorers Lewis and Clark followed the Missouri River in their quest to explore the Louisiana Purchase in search of a water and land highway to the Pacific Ocean. As they traveled along the Missouri River through Iowa, they moved from the familiar regions of the eastern Midwest to areas fully known only to Native Americans and a few white traders. Lewis and Clark, great observers that they were, inspired a concept that more than two centuries later can open this beautiful and historic territory to a new generation of explorers – a series of interconnected pathways that guide people through diverse places and environments, while letting them control their passage and the nature of their engagement with the landscape and its communities.

The Origin of this Study

As it assessed state trail priorities, the Iowa Department of Transportation (Iowa DOT) used three evaluative criteria: the status of candidates as national trails with the ability to obtain special federal funding, receive national attention, and attract large numbers of bicyclists; their connectivity with existing trails, to connect existing trail segments into unified systems; and their ability to attract visitor dollars to advance regional economic development. By applying these criteria, the Iowa DOT established three categories of trails, with the highest priority level given to five "Trails of Statewide Significance". The state's bicycle plan established the completion of these five trail corridors within 20 years as a primary goal for Iowa DOT.

Iowa's five Trails of Statewide Significance include:

- **The American Discovery Trail (ADT)**, envisioned as a coast-to-coast trail system from Point Reyes, California to Cape Henlopen, Delaware, envisioned by the American Hiking Society in 1989. The Iowa portion of the ADT encompasses 500 miles of shared-use paths that includes:

- **The Mississippi River Trail (MRT)**, with about 335 miles in Iowa, extending from New Albin to Keokuk. The MRT in Iowa makes extensive use of the state, county, and local road systems generally paralleling the Mississippi River.
- **The Central Iowa Loop**, a continuous 110-mile shared use path system that connects five existing trails in the center of the state.
- **The Iowa Great Lakes Connection**, a 135-mile system that incorporates existing shared-use paths to create a system that connects the Okoboji lakes, Storm Lake, Black Hawk Lake, and Swan Lake.
- **The "Lewis and Clark Trail,"** the subject of this study, extending from Sioux City to Hamburg, the last of the Trails of Statewide Significance to receive a master plan for its development.

Naming a Trail

The name of a trail tells a great deal about the concept and even the routing of a trail. For example, the name "American Discovery Trail" implies a system that helps the user understand our nation and its people and landscapes, rather than establishing the most direct route between the West and East Coasts. Similarly, the name "Lewis and Clark Trail" implies a trail that generally follows the Missouri River route of the Corps of Discovery, and places an interpretive focus on this great expedition. Yet, there are many other "Lewis and Clark Trails" in the United States, as well as the Lewis and Clark National Historic Trail, inviting potential confusion. In addition, America has recently completed the bicentennial commemoration of the expedition, and popular interest in Lewis and Clark history, while compelling, has understandably waned a bit. For these and other reasons, both the authors of this study and the Steering Committee, integral to its preparation, believed that a different and broader approach was advisable, despite the fundamental importance of the Lewis and Clark expedition to both the history of this area and the statewide significance of a trail that explores it.

The territory that this trail passes through includes two unique and exquisitely subtle environments: the "Bluffs," one of the world's two formations of windblown loess hills; and the valley formed by the shifting channel of the meandering Missouri River along with the great waterway itself, known regionally as the "Bottoms." Both environments are already marked by scenic routes devoted to the au-

tomobile – the Lewis and Clark National Historic Trail with its parallel auto route and the Loess Hills Scenic Byway. The committee suggested naming a unique trail that both explores and links these two environments the "Bluffs and Bottoms Trail," honoring both Lewis and Clark's search for knowledge and their drive to explore all aspects of this distinctive area and local traditions. The name is also alliterative and easy to abbreviate as the "BBT." Members of the public suggested other ideas, including the "Western Explorers' Trail" or simply the "Explorers' Trail" (ET).

For convenience, this study continues to refer to the ultimate facility as the Lewis and Clark Trail or the LCT. However, we believe that another name that reflects both a spirit of exploration and the special geography and character of this part of Western Iowa will communicate the values and experience of this potential facility.

Objectives of the Trail

The Lewis and Clark Trail's overall goal is to make the landscapes and natural and human history of the Missouri River Valley and the Loess Hills more accessible to a wide variety of users for recreational, transportation, educational, and economic development purposes. This section identifies the objectives that if realized, will help the trail meet this goal over time.

- 1. The trail will satisfy recreation and transportation needs of a variety of user groups.** Long distance trails such as Iowa's Trails of Statewide Significance are most commonly associated with bicyclists with the range and ability to cover these distances. Indeed, many of this plan's recommendations and concepts are designed to adapt roads to safer and more pleasant bicycle use. However, while bicyclists are probably the dominant constituency for a trail network, they are by no means the only users. Hikers and other pedestrians, equestrians, and water and motorized recreationalists also should be accommodated within the overall system, and its features should provide high quality environments for all these user groups.
- 2. The trail concept should recognize different levels of user abilities with appropriate features and facilities.** Some LCT users will be long-distance road cyclists who will cover the Hamburg to Sioux City route in two days and are completely comfortable on most highways. Others will be families with small children out for a short, car-free trip through the countryside. Still other groups, like hikers and birders, may be looking for trails that take them to untouched, natural environments or observation points. The most successful trail should provide all these and others with satisfying, safe, and comfortable settings.
- 3. The trail should use existing facilities and resources to the maximum degree possible.** The Iowa DOT's draft bicycle and pedestrian plan identifies over 113,000 miles of highways, county roads and municipal streets which can be used by bicyclists in the state. This document includes low-volume roadways, roads with paved shoulders, and streets with bike lanes within the definition of "trail" and the LCT study area is rich in low-volume roads. Many of these can be adapted without additional land acquisition, and bicycle-oriented improvements often create better and safer facilities for motorists. The study area also has many special resources that may help define and enrich a trail corridor. These include properties owned by the Iowa Department of Natural Resources, existing state and county parks, federal levees, and public tribal lands. All of these resources can both accommodate trails and enrich the experience of using them.
- 4. The trail should tell the story of this unique part of the state, and direct users to features that advance the narrative.** The western Iowa area has a rich variety of museums, parks, interpretive displays, historical sites, and other places of interest. The trail should help users find these distinctive locations, and through interpretation, help inform and enrich their experience. While trails are not primarily educational institutions, they can build an awareness and sensitivity to environment, history, culture, art, and commerce.



Cedar Falls Trail in Cedar Falls, a segment of the Iowa part of the American Discovery Trail (ADT).



Mississippi River Trail (MRT) - Davenport



Heart of Iowa Trail in Story County, part of the American Discovery Trail.

Trails of Statewide Significance

The ultimate goal of the Iowa Department of Transportation's Bicycle Plan is to encourage connectivity among communities, parks, natural resources, shopping, employment, and other amenities with a comprehensive, multi-modal, easily accessible trails system. As part of the process of developing a statewide bicycle plan, the Iowa DOT conducted an extensive analysis of existing corridors to help establish a network of cross state, and interstate trail connections.

The Iowa DOT in cooperation with cities, counties, metropolitan planning organizations, regional planning affiliations, interest groups, trail users, and citizens in general, established five trails of "Statewide Significance" as a first phase in the implementation of a statewide bicycle system. The ultimate goal of these trail corridors being completed within the next 20 years. They include the American Discovery Trail, Mississippi River Trail, Central Iowa Loop, Iowa Great Lakes Connection, and the Lewis & Clark Trail.



The Missouri River - Then and Now



Light House at Lewis and Clark State Park



Blue Lake, Lewis and Clark State Park

Lewis and Clark State Park

A changing landscape

At the time of Lewis' and Clark's journey, the Missouri River was part of a vast and untamed wilderness. The river was equally dynamic and untamed, with changes in its channel cutting into and building back the surrounding landscape.

The illustration above, superimposing the historic channel on a contemporary aerial photograph, illustrate how the river has changed since the time of expedition. The Missouri River of Lewis' and Clark's time was vastly different from today's swift channel. Its tight meanders often led the expedition back to within a few yards of their location several days earlier.

At this location, including Lewis and Clark State park and the City of Onawa, the Missouri River channel is more than two miles from the bend that the expedition traversed on August 5, 1804. Floods caused the river to change course, sometimes dramatically during very short periods.

Lewis and Clark State Park includes more than 176 acres, with campgrounds, picnic shelters, hiking trails, and a 250 acre ox-bow lake.

In addition its recreational activities, the park offers a full-sized replica of the keelboats used during the expedition. Each year, a re-enactment at the park memorializes the journey of discovery and demonstrates the vessels that made the expedition possible.

5. **The trail should promote economic development.** Major trails should create business opportunities. Trail users need supporting services – food, lodging, retailing– and are drawn to the communities that provide both these services and local character. A region's cities and towns provide that most valuable of trail experiences: pleasant and often unplanned human interaction. In rural areas, several new businesses can add enormously to the local economy and the viability and quality of communities.
6. **The trail should have integrity and continuity at all stages of its incremental development process.** The Lewis and Clark Trail is an ambitious concept that will take many years to develop. But LCT evolves, always usable but changing and improving over time. From the outset, the LCT should offer a complete experience to users, one that gets better and more memorable as the years go by.

The Organization of the Plan

The objectives described above frame the approach and organization of this document:

Chapter One describes the process and results of the extensive stakeholder and user participation program that was fundamental to this document. These included fourteen stakeholder discussions in six locations as part of a bike tour of the area by the consulting team, an opinion poll about trail users and needs, design workshops throughout the region, and a detailed review of the experiences of other thematic, long distance trails across the nation.

Chapter Two presents an atlas of trail determinants, mapping the resources, services, opportunities, and attractions that help determine the trail route and character.

Chapter Three proposes the overall trail concept with interconnected alignments that give trail users access to a rich variety of settings and resources. It also considers the contexts of the trail and presents design prototypes and general guidelines for trail segments in each of these contexts. The chapter concludes by matching trail prototypes with specific segments.

Chapter Four presents an information and theming plan, considering the stories and themes opened by the trail, and the means of communicating these themes to users and visitors. It also develops a graphics and signage program that includes a trail marker, information and directional graphics, and supporting information.

Chapter Five sets forth the implementation plan, considers alternative organizational structures for trail development and administration, and illustrates sequencing ideas that maintains integrity and usefulness through many years of gradual development. The implementation plan also includes statements of probable cost for the system and its individual segments, and reviews funding methods for construction and maintenance.

The Lewis and Clark Multi-Use Trail expands the original idea of a point-to-point trail that generally follows the National Historic Trail route to an idea that encourages users to explore the entire region, in the spirit of the Corps of Discovery as it investigated the future of the young American nation. We hope that this plan also helps people of all ages view this great land with the wonder and idealism of youth, recapturing the spirit of discovery that has made our country great.



Chapter 1

The Process

This plan's concepts are rooted in the opinions and perceptions of those who know and understand Western Iowa and the Loess Hill region the best – its residents, civic leaders, and community organizations.

Through the public participation and planning process, residents had the opportunity to interact with the project team and steering committee, and to provide opinions and insights on the development of the Lewis and Clark Multi-Use Trail.

The Process

A Review of the Goal-Setting Process

This plan's concepts are rooted in the opinions and perceptions of those who know and understand western Iowa and the Loess Hill region the best – its residents, civic leaders, and community organizations. While participation in a trail planning process typically focuses on conservation boards, engineers, recreational associations, and local and state officials, this process also focused on end users. Every resident has a compelling interest in the development of additional recreational opportunities within the region and had the opportunity to participate at some level.

The public participation process included:

- **Public Opinion Survey.** This opinion survey could be completed either on-line or in hard copy. While non-scientific, the survey identified potential issues and goals that stakeholder meetings and design workshops addressed more completely.
- **Peer Survey.** A peer survey of state and municipal transportation agencies provided insight into the policies and practices that other regions have utilized in implementing and maintaining regional trail networks.
- **Stakeholder Interviews.** At the beginning of the planning process, the planning team and Iowa Department of Transportation sent invitations to key stakeholders within the study area, requesting their participation as members of the project steering committee. In April 2009 phone interviews welcomed them to the process and asked for their initial thoughts and opinions about the project.
- **Trail Planning.** Workshops took place on July 27th – 30th, 2009 and September 21st – 25th, 2009. They were held in Hamburg, Percival, Glenwood, Council Bluffs, Missouri Valley, Onawa, Sloan, and Sioux City.
- **Project Steering Committee.** The Project Steering Committee met at key points during the planning process to review the progress of the plan and make revisions to the draft concepts.
- **Open House.** Public Open Houses were held on August 3, 4, and 5, 2010 at Glenwood, Missouri Valley, and Sioux City. At the open houses members of the public reviewed and commented on the master plan before final revision and adoption.



Figure 1.1: Steps in the Planning Process

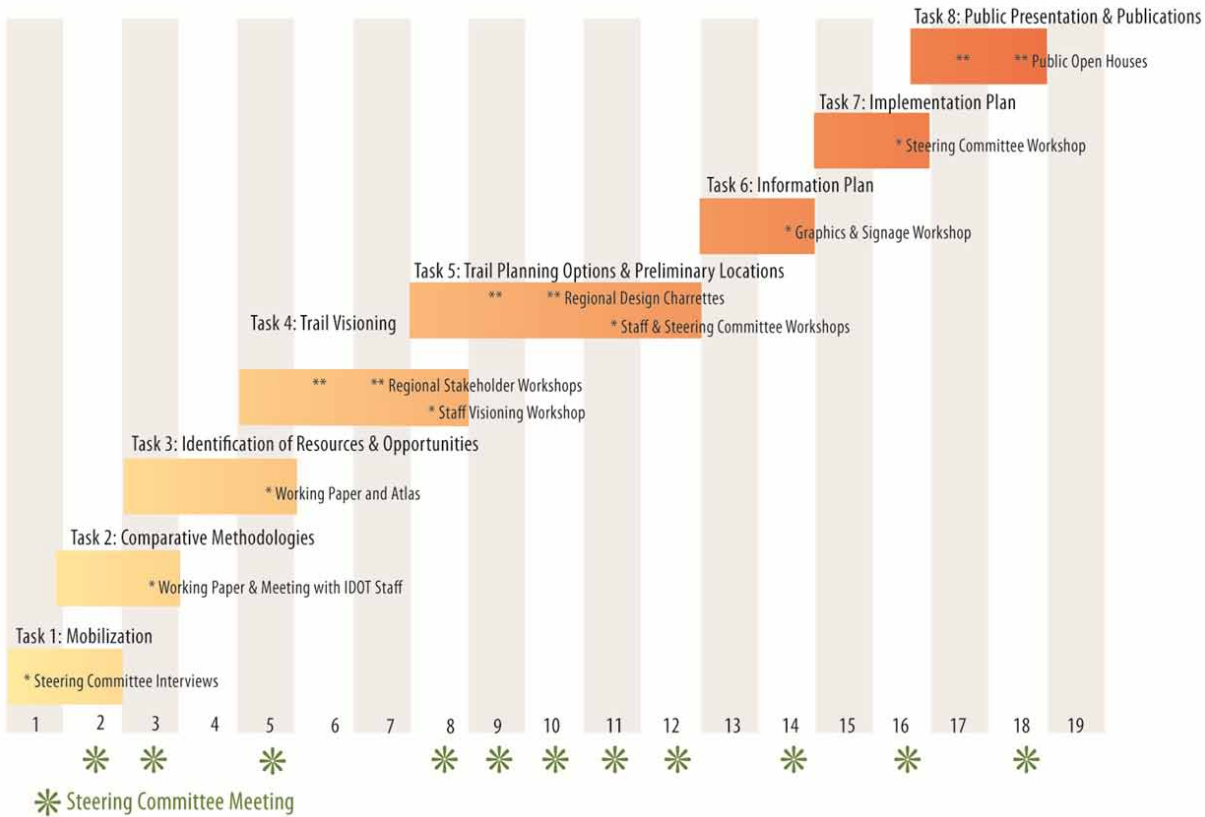


Figure 1.2: Recreational Activities of Survey Respondents

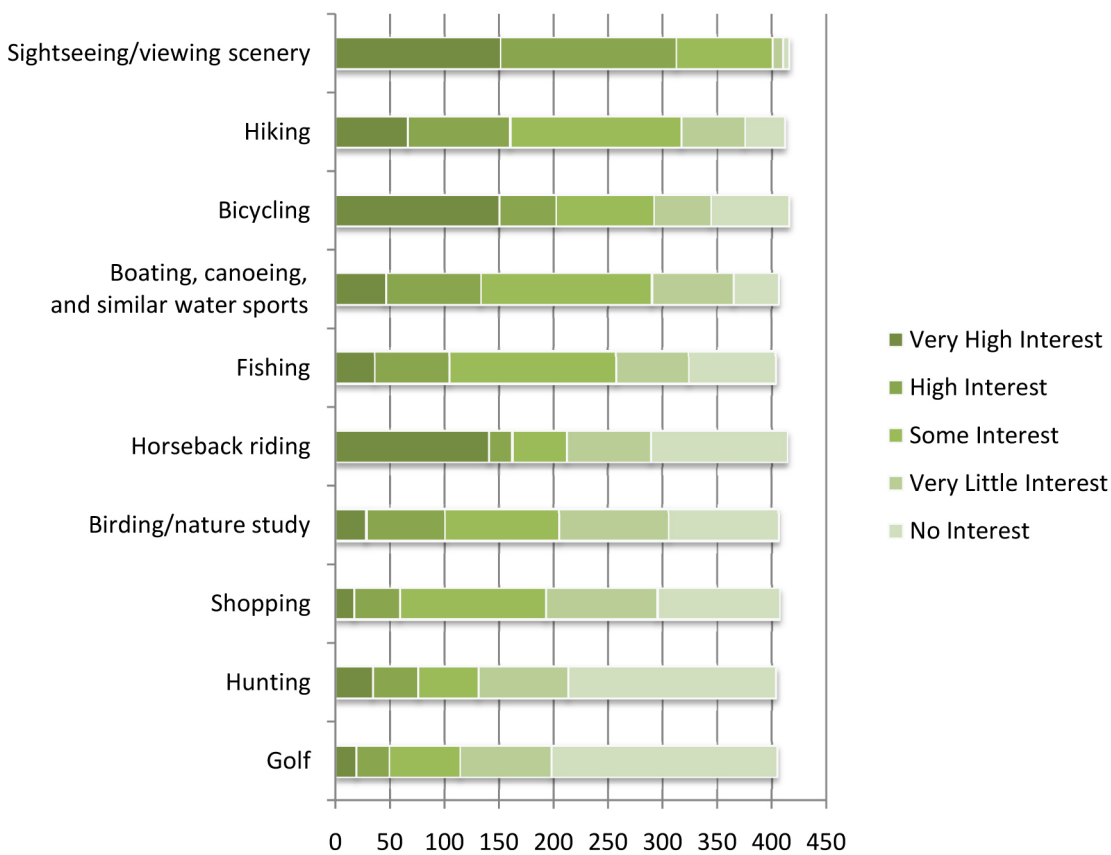


Figure 1.3: Historical & Cultural Interests of Survey Participants

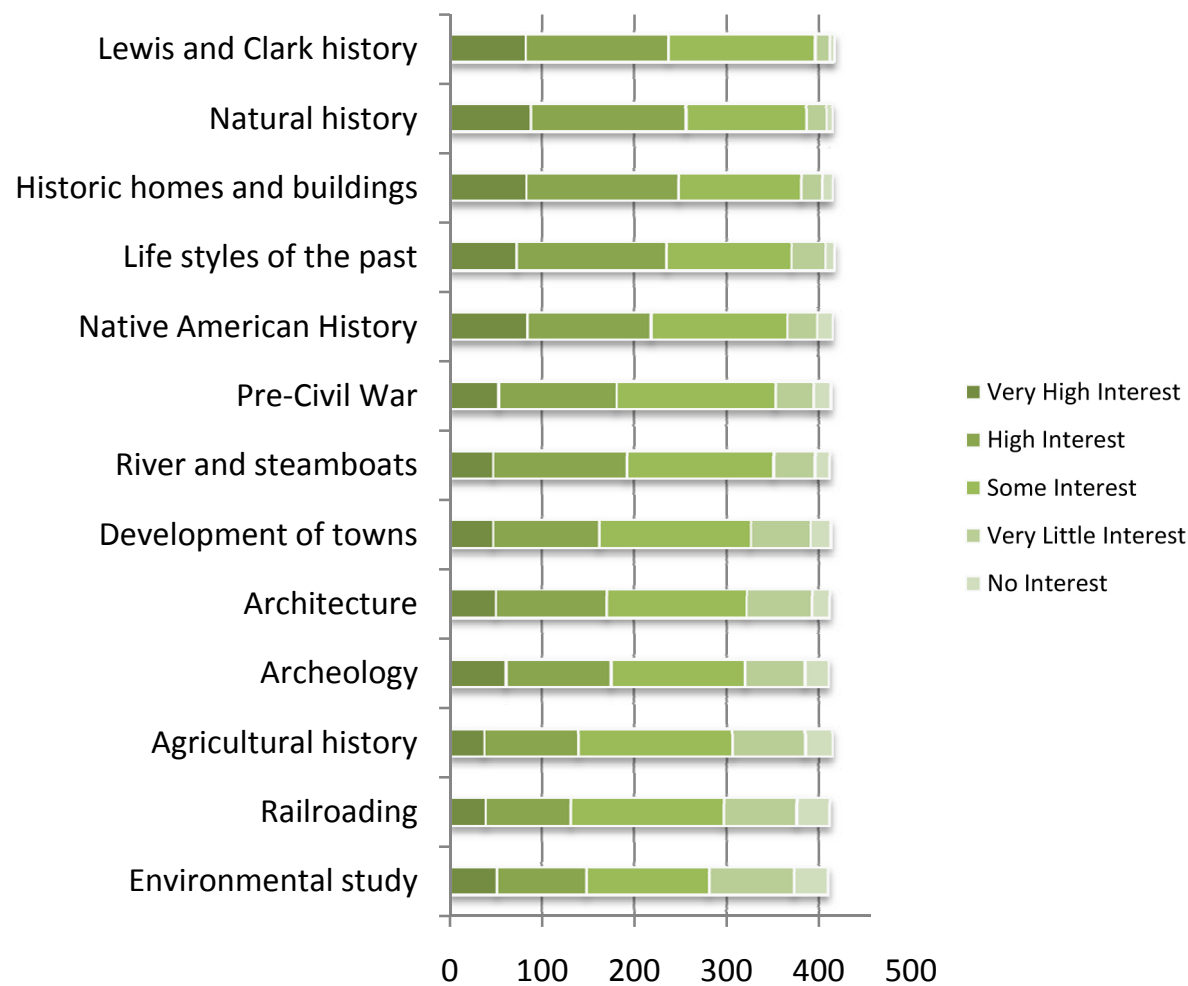
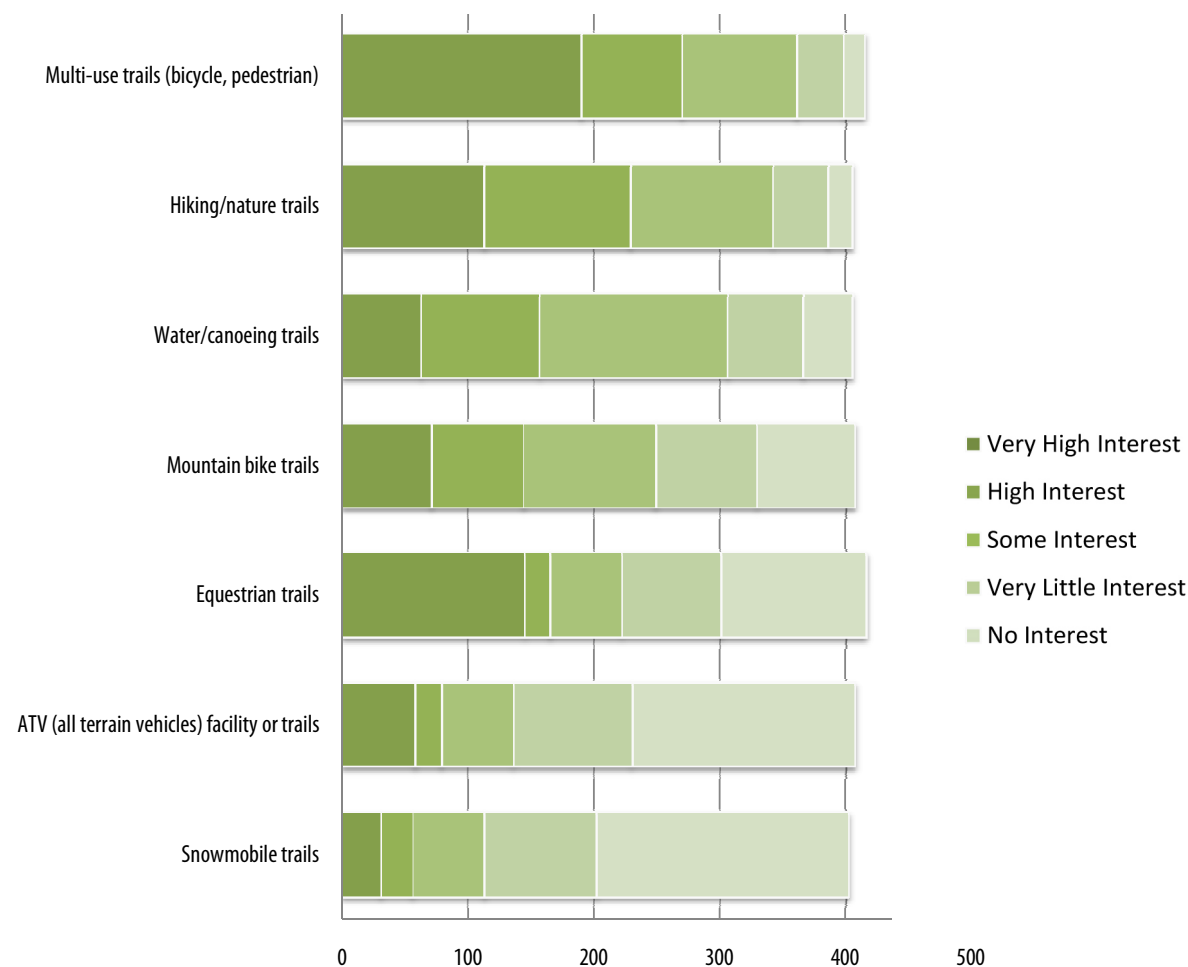


Figure 1.4: Trail Type Preferences of Survey Participants



Public Opinion Survey

The process began with an opinion survey that gathered opinions and perceptions about the development of a multi-use trail network and the type of facilities and attractions that it should include. Marketing for the survey included newspapers, the project website, and an information booth set-up at RAGBRI 2009 Expo in Council Bluffs, Iowa. Over a six week period, 429 people completed the survey on-line or on paper. Participants answered a wide range of questions on recreational interests, regional points of interest, and applicability of types of trail facilities. This section summarizes the findings of this survey.

Recreational Activities

Respondents rated their level of interest in recreational activities on a scale of “Very High Interest” to “No Interest”. A substantial majority of participants identified a high interest in sightseeing and viewing scenery. In addition, outdoor recreational activities, most notably bicycling, hiking, equestrian activities, and water related excursions were rated highly. Figure 1.2 illustrates the frequency of individual responses.

Historic and Cultural Resources

The survey asked participants to score their level of interest in various types of historic and cultural resources. Significant interest existed for all resource areas. However, the highest scoring selection was the history of Lewis and Clark, with 90% of respondents showing interest in the interpretation and linking of historic resource connected to their expedition. Also scoring highly were natural history, historic sites, lifestyles of the past, Native American history and culture, and pre-Civil War history. Results indicated a strong appreciation for cultural and historic resources linked to “American” cultural dynamics, and the regions natural resources. Figure 1.3 details the frequency of responses.

Trail Types

The survey asked respondents to rate their level of preference for various types of facilities. Multi-use trails that supported both walking and biking received the highest number of positive responses. Responses indicating at least some interest in a particular facility included hiking and nature trails, followed by water/canoeing trails, and mountain bike trails. Figure 1.4 details the frequency of responses.

Figure 1.5: Self Description of Survey Bicyclists

Attractions

The survey asked participants about past visits to attractions, museums, and communities. About a third indicated visits to some type of state park or recreational area in the last year. The Loess Hills Byway, Stone State Park, and the Bob Kerry Pedestrian Bridge were the most frequently visited destinations during the last year. DeSoto Bend, Lewis and Clark State Park, and Loess Hill State Park, were also popular attractions, but the majority of respondents had not visited them during the last year.

Museums received relatively less frequent visits than other attractions. The majority of respondents never had visited museums listed in the survey. Of available choices the most frequently visited museums were:

- Bertrand Museum, De Soto National Wildlife Refuge (38%)
- Sioux City Art Center, Sioux City (31%)
- Sioux City Public Museum, Sioux City (30%)
- Union Pacific Railroad Museum, Council Bluffs (28%)

A separate question addressed museums and monuments related to Lewis and Clark. About 25 percent or more of survey respondents indicated visits to at least one of these facilities. The most popular facilities were the Sergeant Floyd Monument (47%) and the Lewis and Clark Interpretive Center (36%).

Trail Facilities and Use Characteristics

The survey included questions to help define facility preferences of pedestrians and bicyclists. Responding to a question asking bicyclists to describe their comfort with different facilities, about 45% were comfortable riding their bike on a legal road to at least some degree. About 25% were uncomfortable in mixed traffic, preferring separated trails. (See Figure 1.5)

A following question asked respondents to rate how well different facility types met their needs. Off-road trails (both paved and unpaved) met the needs of the greatest number of respondents, followed by paved bike lanes and boardwalks. (See Figure 1.6)

The survey asked participants whether or not they would use a trail network along the Missouri River corridor from Sioux City to the Hamburg. More than 70 percent stated that they were extremely or very likely to use such a trail network. (See Figure 1.7)

Finally, the survey asked participants to rate how important various trail facilities were to them. Signage and directional information, trailheads with facilities, and campgrounds were rated most important by survey respondents. The most important trail types were bicycle trails, nature trails, shoulder improvements on roads, and canoe trails followed by equestrian and winter sports trails. (See Figure 1.8)

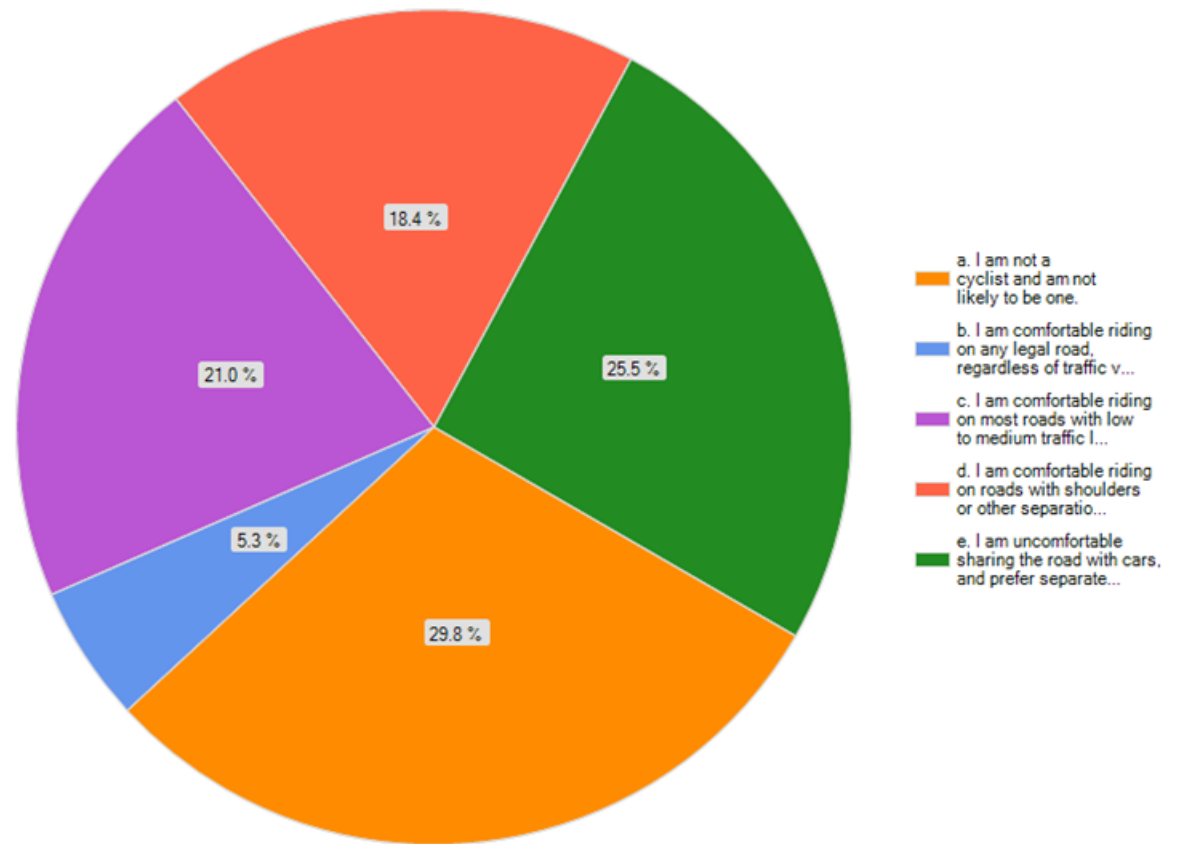


Figure 1.6: Ability of Various Trail Designs to Meet Individual Cycling Participant's Needs

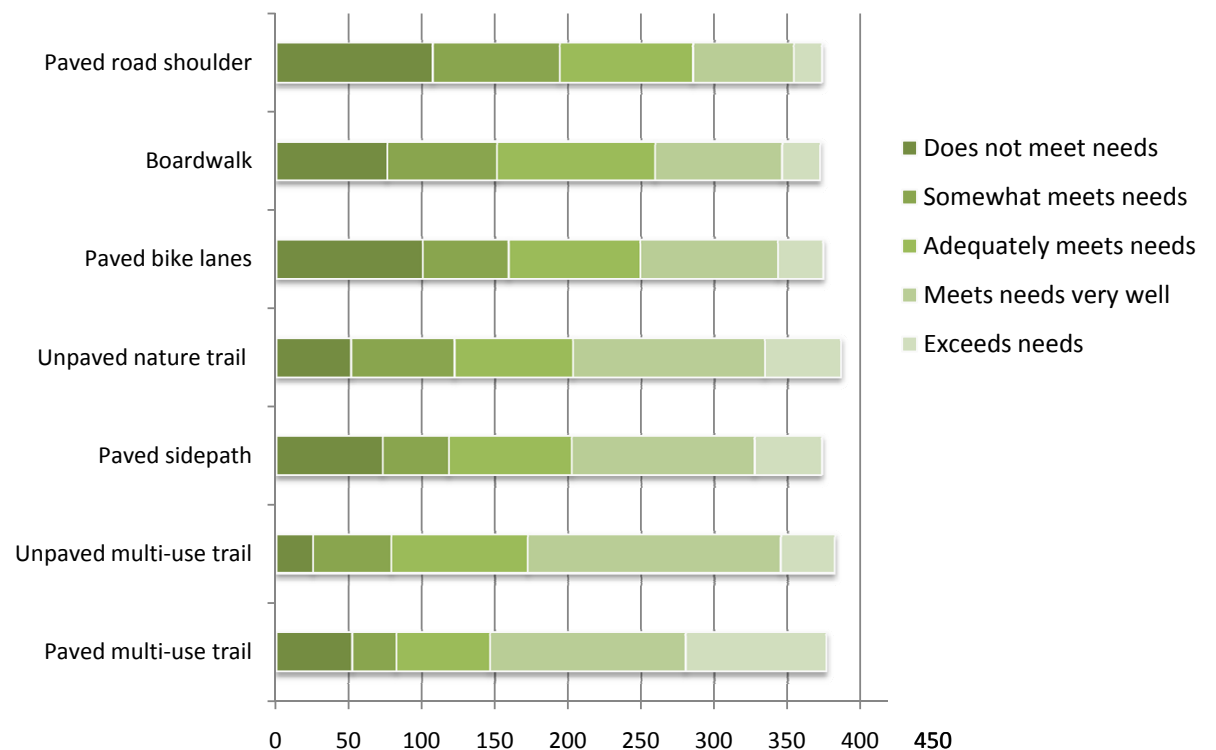
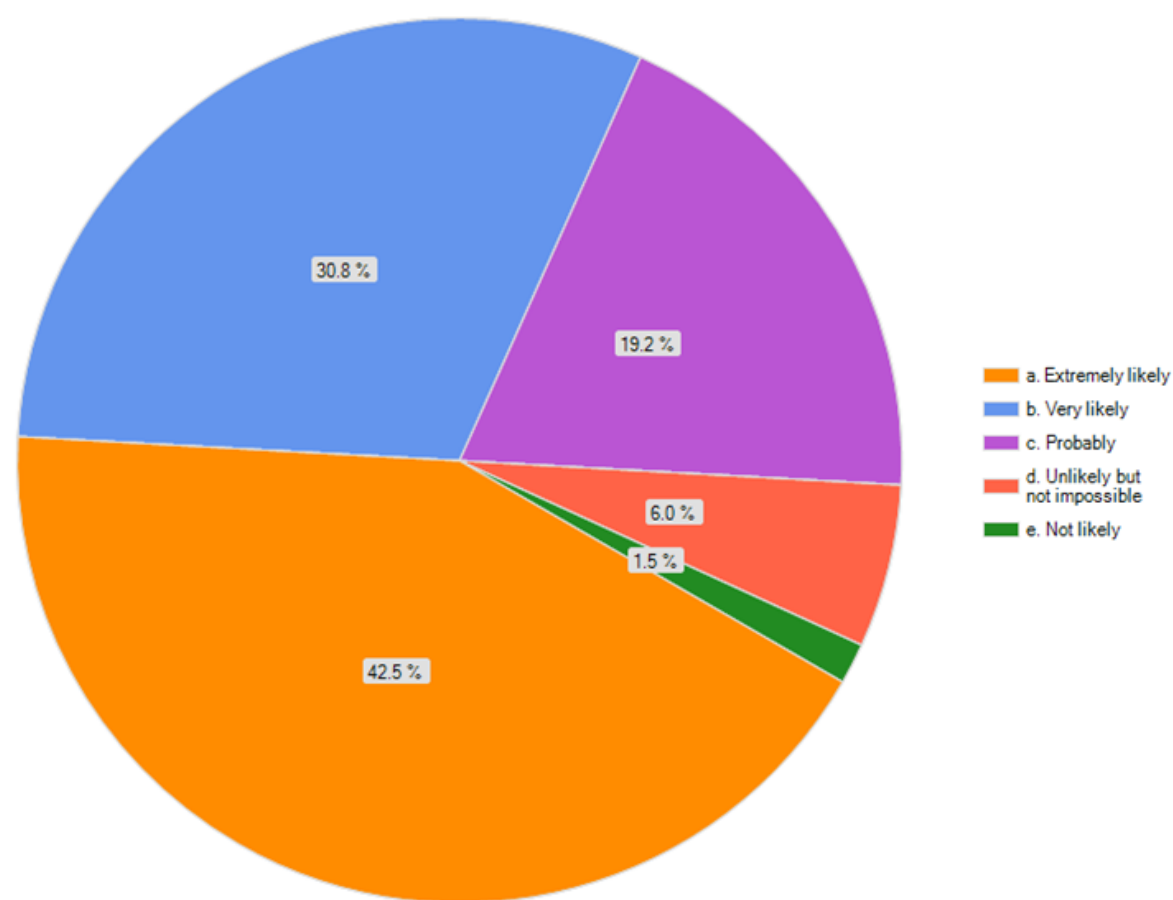
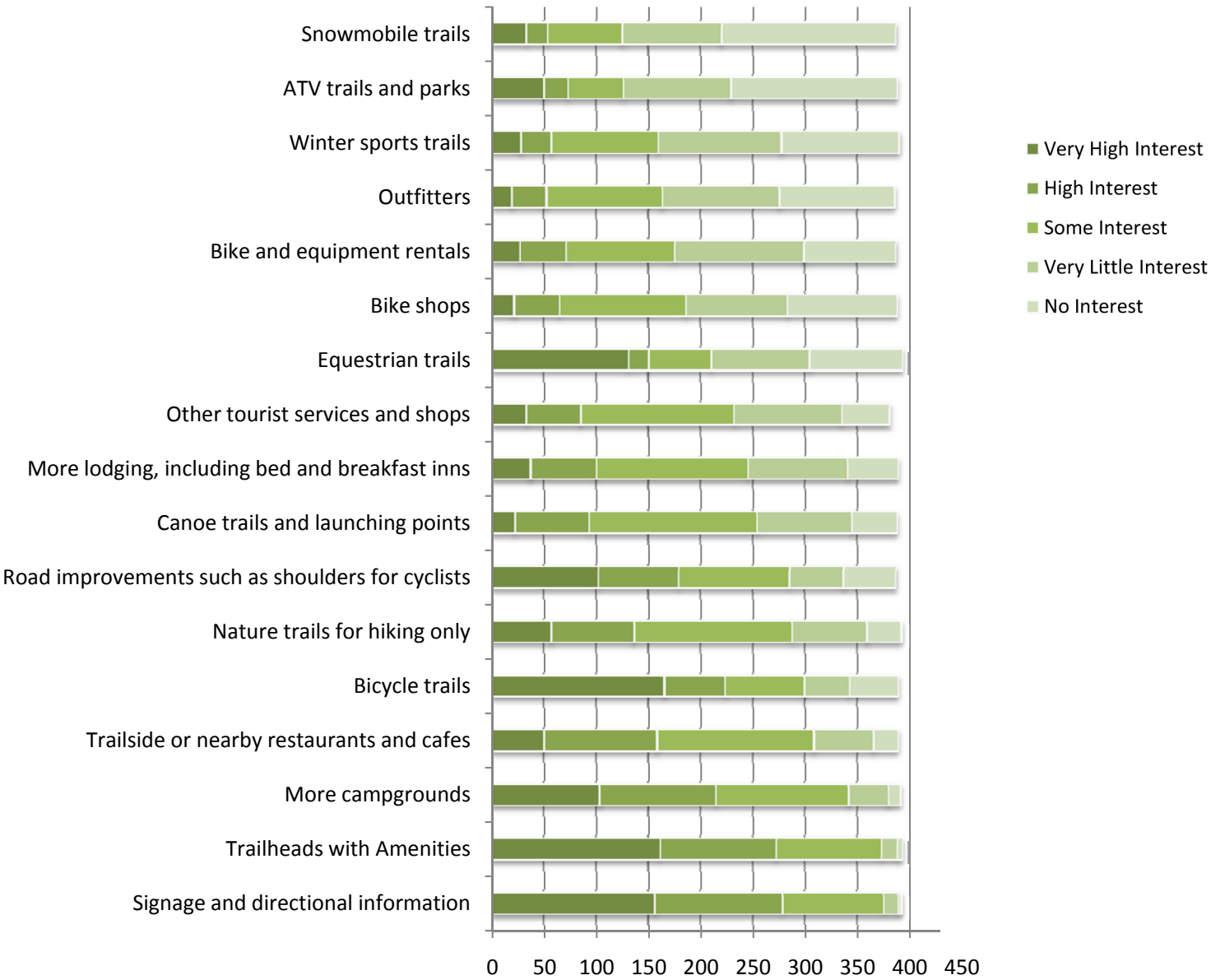


Figure 1.7: Participants Expectation of Use of Hamburg to Sioux City Trail



Council Bluffs' Riverfront Trail provides access to a number of recreational areas including; Lewis & Clark Monument, Big Lake Park, Narrows River Park, Dodge Park Golf Course, Western Historic Trails Center, Harveys Recreation Complex, and Lake Manawa State Park. In addition, the trail also provides access to Nebraska, via the Bob Kerrey Pedestrian Bridge.

Figure 1.8: Importance of Various Trail Facilities



Benefits of Multi-Use Trail

While trail networks are often considered to be recreational amenities, they also have many other benefits, including tourism, economic development, education, social contact and health and wellness. The survey asked respondents their opinions about the benefits of a multi-use trail along the Missouri River corridor. The opinion of participants was that likely benefits were attraction of new residents, rural economic development, habitat conservation, education, and community economic development. (See Figure 1.9)

The survey concluded by asking participants to identify specific routes and additional amenities important to a trail network along the Missouri. Routes mentioned as potentially important included the Wabash Trace, Loess Hills Scenic Byway, Stone State Park trails, and Larpenteur Memorial Road. Other suggestions included:

- Tyson Bend
- Loess Hills Scenic Byway
- State Highway 982 (Smithland to Sioux City)
- Tri State Trail in Sioux City
- Orchard Ridge Loop (Loess Hills Byway)
- Stagecoach Loop (Loess Hills Byway)
- Snyder’s Bend
- Area west of the Sloan Casinos
- Desoto Bend
- Council Bluffs’ trails network
- Painter and Pease Roads
- Pony Creek Loop (Loess Hills Byway)

Specific features and attractions that participants felt should be served by the trail network included the following:

- Riverside trails
- Equestrian trails
- River Resources
- Camping areas
- Loess Hills
- Canoeing/Kayaking
- Historic markers
- ATV trails
- Wisecup Museum
- Religious Museum
- Broken Kettle grasslands
- Boy Scout Campgrounds
- Sergeant Floyd Monument
- Schilling Wildlife area
- Snowmobile trails
- Hitchcock Nature Center
- Visitor Centers
- The Narrows
- Lewis & Clark Monument
- Lewis & Clark State Park
- Preparation Canyon

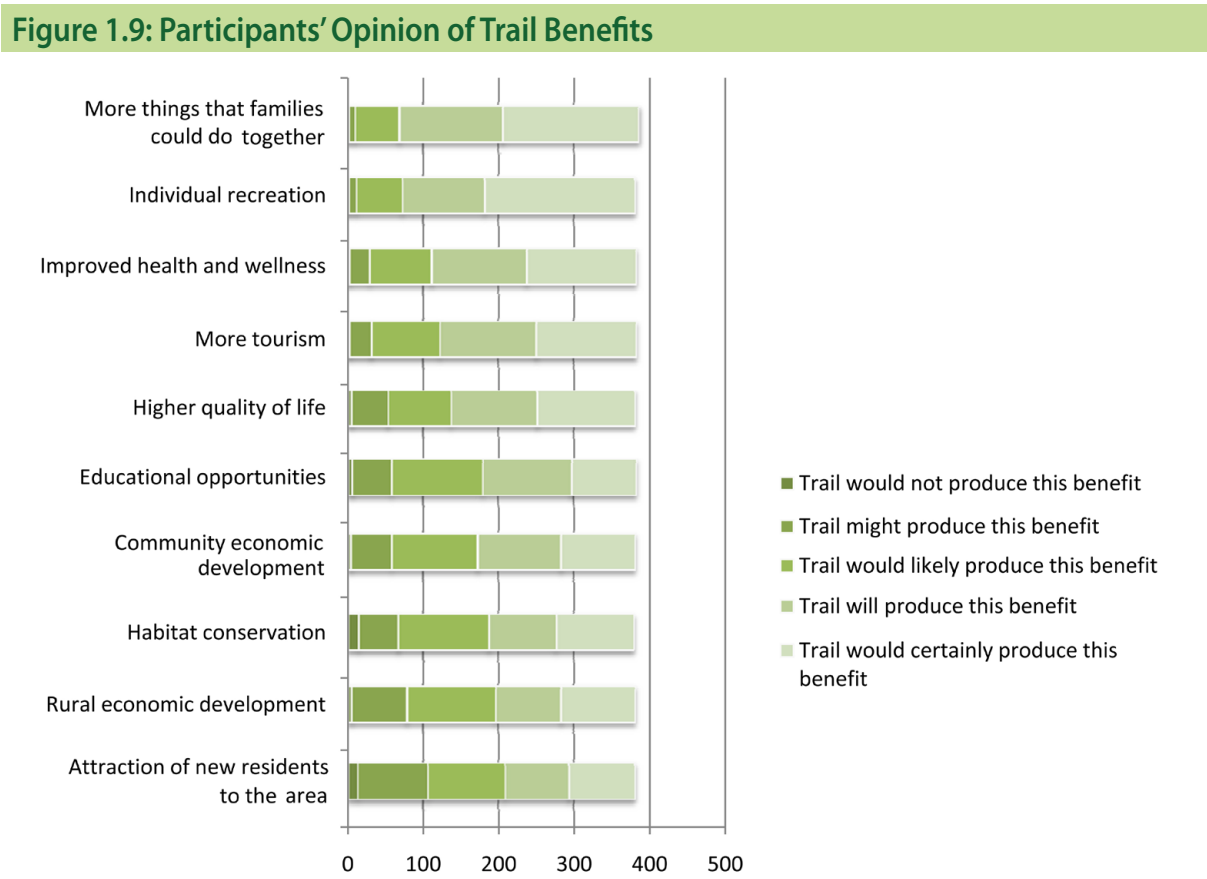
Questionnaire Conclusions

The survey results lead to the following conclusions:

- Strong interest exists in the development of additional multi-use trail facilities in Western Iowa. Additional hiking, biking, water sports and equestrian facilities attracted particular interest.
- Interest in Lewis’ and Clark’s expedition remains high in the region. Other subjects, such as regional history and culture are of considerable interest. This suggests the value of incorporating multiple interpretive themes into the development of the trail.
- Most bicyclists are comfortable with paved shoulders and low volume roads as potential trail routes. However, the ultimate trail should provide close connections to nature and the Missouri River corridor.
- The trail network can help attract new residents and encourage additional tourism and economic development.



View of the Missouri River Valley from Murray Hill



Loess Hills National Scenic Byway

The Loess Hills National Scenic Byway is a strong precedent for a route network that displays and interprets the natural features of Western Iowa. The byway effort began in 1989 as a grassroots effort by citizens, Golden Hills Resource Conservation and Development, and Western Iowa Tourism. In 2000 the byway was designated a National Scenic Byway. The network includes a “spine” route made up entirely of paved roads, with a series of loops reaching into more remote sections of the bluffs.

Today’s system is governed by a 13-member board comprised of representatives from the seven Byway counties, State Historical Society, Iowa Department of Transportation,

Golden Hills Resource Conservation & Development, Western Iowa Tourism, and a at-large member. The byway receives both financial and in-kind support from County Boards of Supervisors, county conservation Boards, County Engineers, landowners, and individual volunteers.



Loess Hills National Scenic Byway near Glenwood

Peer Survey

To understand lessons learned from the development and administration of regional trail networks, the project team contacted the managers of 15 regional trails, and received nine responses, identified in Table 1.1. This section summarizes the comments received from the managers, with special emphasis on three areas:

- 1. Looking back on your experience, what would you do differently:
- 2. What do you consider your three greatest successes and your three greatest failures?
- 3. If you were advising a group trying to establish a new non-motorized trail, what would you suggest they do? What should they avoid?

Emerging Themes

The use of open-ended questions produced a wide-range discussion, through which specific themes began to emerge. Themes covered during these interviews are described below.

Coalition Building. Every manager stressed the importance of building a broad coalition and seeking as many partners as possible. Coalition building must begin from the start. Typical partners include political, healthy living organizations, biking and walking clubs, federal, state, county and local government agencies, neighbors of the trail, farmers in rural areas, local chambers of commerce, libraries, and local opinion makers.

An example of the importance of coalition building is the MRT trail in Louisiana. Following Hurricane Katrina much of the trail built on levees needed repair. The United States Army Corp of Engineers (ACOE) stated that it would not rebuild damaged sections of the trail when rebuilding the levee. Fortunately for the MRT in Louisiana, the diverse coalition that had been built over the years including neighborhood groups, Chambers of Commerce, and local politicians came out fighting to keep the trail. Eventually a compromise policy was developed.

Reese Lukie of the American Discovery Trail, credits Nebraska as a state that “did it right” by actively reaching out to farmers in the area of the trail corridor, asking them to consider benefits the trail

Table 1.1: Trail Managers Surveyed

Trail Manager	Trail	Brief Trail Description
Mark Ackelson	Mississippi River Trail- (IA)	The Mississippi River Trail (MRT) passes through 10 states, following the river from its headwaters to the Gulf of Mexico. This study looked at the experiences of three states, Iowa, Minnesota, and Louisiana.
Dan Jertes	Mississippi River Trail-(LA)	See Mississippi River Trail (IA)
Dorian Grilley	Mississippi River Trail- (MN)	See Mississippi River Trail (IA)
Karen Votava	East Coast Greenway	Continuous 3,000 mile route from Maine to Florida. The effort began in 1991, with organizational structure forming in 1995.
John DiMura	Erie Canal	Constructed 170 miles of trails since 1995.
Bob Manzoline	Mesabi Trail (MN)	State trail extending 132 miles at completion. As of 2009, about 102 miles of trail have been completed. The trail offers access at regular intervals. The longest paved section is between Marble, MN and McKinley, MN.
Reese Lukei	American Discovery Trail (Varies)	A Congressionally-chartered “National Discovery Trail”, extending 6,800 miles from Cape Henlopen State Park, Delaware, to Pt. Reyes National Seashore, California. It passes through urban areas such as San Francisco and Cincinnati, 5 national scenic areas, 12 national historic trails and 34 national recreational trails. The ADT crosses both Iowa and Nebraska, and is one of the state’s five Trails of Statewide Significance.
Ginny Sullivan	Underground Railroad Bike Route (Varies)	The Underground Railroad Bicycle Route (UGRR) is themed around the bravery of those who fled bondage and those who provided them with shelter. The trail passes many historic sites and points of interest in its 2,008 mile route. This is new project and is under development by the Adventure Cycling Association.

could bring to their small towns and rural communities. This early and proactive approach helped make allies in developing the trail network.

Dorian Grilley of Minnesota suggested getting one or two influential public officials on board early. Citing successes in other communities, and the positive effects of the trails, he suggests using the Rails-to-Trails Conservancy Library of studies to back up claims of benefits.

Many managers mentioned the problem of people learning about projects late in the game. When people find out a project “late” and feel they were left out of the loop, they often resent the project. What people perceive as “late” may actually be early in the planning process, so broad publicity for projects at the initial phase is very important.

Project Awareness. Project awareness should be thought of in two ways:

- Awareness of the planning and development efforts
- Awareness and use of the trail once it is in place. As each segment is opened, work to make people think of it as an actual route that can be used, not just an idea or a plan.

Karen Votava has struggled with this particular problem on the East Coast Greenway. Only 5 percent of the public is aware the trail exists. Many think something is underway but do not understand the route is on the ground and available for use today. This in turn reduces public support and potential donations.

Several managers have had success using events such as tours and festivals to draw attention to their trails and grow public awareness.

Mesabi Trail

Land of the White Giant

Located in northern Minnesota, the Mesabi Trail is a premier paved bike trail winding through some of the state's most picturesque regions. In 2010, approximately 115 miles of the trail have been completed and offer convenient accessibility at numerous points. At 132 miles when completed, the Mesabi will be the longest paved bicycle trail in the United States.

In 2000 the St Louis & Lake County Railroad Authority undertook the proposition of converting abandoned railroads into trails. Along with the aid of regional residents and landowners, the authority has secured abandoned railroad right-of-ways and other properties to connect the 132 mile route. Financing of the project has largely been supplied

through the collection of user fees. Annual passes cost \$15 per individual.

While user fees are higher than that of most trails, the Authority offers a free shuttle service to trail users. At the end of a trail ride, users can contact the Mesabi Trail Shuttle Service to be picked-up and transported either to their starting location or to another point along the trail for a nominal fee.



Minnesota Discovery Center, Courtesy Mesabi Trail

Tours may be multi-day or single day tours. They are generally a public affair but a tour can be used to target specific fund raising prospects. Karen Votava takes donor prospects on private tours with the trail manager from the region, the board chair and trail council members. Her tours are modeled on the Rails-to-Trails Conservancy donor tours.

Partnerships. The Missouri River lacks the fame or tourism infrastructure of the Mississippi, but groups are working hard to promote the region. The trail managers interviewed suggested taking full advantage of existing activities and efforts taken toward developing the regions tourism industry.

Tourism is the focus of the Iowa Resource Conservation and Development Program (RC&D) website (www.ia.nrcs.usda.gov/partnerships/rcandd.html) and states: "Tourism based on unique aesthetic, cultural and historic resources is an important opportunity for many Iowa communities. Strengthened RC&D assistance to local rural tourism development work will benefit communities across Iowa. Communities along the Missouri River in Congressional Districts 4 and 5 have a particular need to make use of the unique opportunity presented by the Lewis and Clark Bicentennial in 2003."

The Sioux Rivers Area is managed by Darrell Geib, this covers the northern portion of the study area. The southern half is called the Golden Hills Area and is managed by Shirley Frederickson. The Loess Hills National Scenic Byway is a project of the Golden Hills RC&D and may present a partnering resource for the Lewis and Clark Trail.

The National Park Service, Trails and Conservation Program (RTCA) can also be a valuable regional trail partner. RTCA Staff provide technical assistance to community groups and nonprofit organizations, tribes or tribal governments, and local, state, or federal government agencies so they can conserve rivers, preserve open space, and develop trails and greenways. Applications are due August 1 of each year for assistance to begin the following fiscal year.

American Trails is another potential project partner, with a mission to support local, regional, and long-distance trails and greenways in backcountry and rural or urban areas. Since its formation

in 1988 American Trails has been involved in activities ranging from training trails advocates to increasing accessible trail opportunities for persons with disabilities.

Local walking and biking clubs were mentioned by a few managers as important partners for route information as well as trail advocacy.

Unusual partnering examples. An interesting example of a unique partnership that proved very successful is the partnership between the Adventure Cycling Association (ACA) and the University of Pittsburgh Center for Minority Health for the development of the Underground Railroad Route. ACA realized early in the planning process that while the concept would be of great interest to African Americans, the organization itself had few African American members. The need to reach out to potential users in the African American community led to a fruitful partnership with the Center for Minority Health.

Local libraries. Adventure Cycling has found that local libraries provide many support services for travelers. Bicycle tourists stop to take a break from the heat, use the restroom, and check the Internet. ACA maps the local libraries on its route maps and works with libraries to make them friendlier to touring cyclists, and bicyclists in general. Examples of improvements include Internet use without local library cards and quality bike racks. On a grander scale, ACA has been working with Web Junction, a Bill Gates sponsored program that provides technical support to libraries seeking to expand their use of the Internet.

REI, the outdoor gear cooperative, has been another valuable partner for ACA. Local store staff nominates projects for grant assistance, making contact at the local level especially important. While REI does not have an Iowa store, this model might be used for other large retailers.

Challengers caused by geographic location. Mark Ackelson, Board Chair of the Mississippi River Trail (MRT) and Iowa MRT representative points out the challenge of the differences in tourism infrastructure along the Missouri River compared to the Mississippi River. The Missouri River region is not as densely populated, and western Iowa has fewer towns, (large and small) than eastern

Iowa. This leads to such challenges as fewer paved roads and a more "rural attitude" towards bicyclists. Mark noted resistance to trails during the planning of the Wabash Trace. The trail is now an accepted and valued part of the western Iowa landscape.

Another geographic challenge mentioned by more than one manager is the logistical problem of gathering board members, trail council members or steering committees over great distances. Good communication is key to successful planning. However, distances can be a major obstacle.

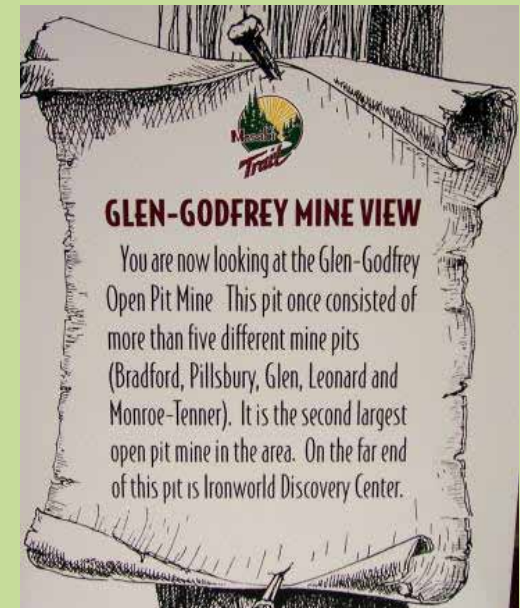
A third geographical challenge for trails of any length are multiple political jurisdictions including counties, cities, and federal lands. The MRT is multi-state and organization of planning and management around state lines works well. Problems occur when a trail needs to be broken down into smaller segments for management. For the MRT, the county level did not work because the counties through which the trail passes are diverse. An extremely rural county faces different management issues than a more urban county. The MRT is still struggling over appropriate segments to organize around.

Use of the levees for trail alignments. The Iowa side of the Missouri River has several levee districts that are charged with maintenance and management of the levee system. Here, the experience of the MRT in Louisiana with the use of levees for trails is instructive. Trail networks need connections to the road grid, and better accommodations for cyclist at street level. If the LCT uses Missouri River levees, it may face challenges to access and maintenance of the trail network.

Signage. Most of the trail managers struggled with trail signage. Long regional networks typically use other trails as their base. For example, the American Discovery Trail stitches local trails and rights-of-way together to form a 6,000 mile trail. Often, local trail organizations do not want to confuse users with multiple signs. The Colorado Trail allows the ADT only an occasional sign to remind users that they are on the right track. In another example, five separate trails use the Golden Gate Bridge. Getting permission to sign is a challenge and sign location may need individual agreements as trail ownership may change.



Mesabi Trail between Kinney and Mt. Iron, *Courtesy Mesabi Trail*



Interpretive Trail Marker, *Courtesy Mesabi Trail*

Dan Jartres reports a similar issue along the Louisiana stretch of the MRT. The river levee trails are on top of the levee crown so trail users can see the land uses on each side. But Lake Pontchartrain Levee trails are on the “wet” side making orientation to surrounding neighborhoods and land uses impossible. Directional information and even distance (minutes vs. miles) information would be very helpful. Signage on travel time along the trail is especially important because distances between points on trails and roads are different.

Adventure Cycling does not attempt to sign its routes, instead selling maps to ACA tourists. This removes the problems of gaining permission and maintaining signs, and makes changing the ACA route as easy as publishing a new map.

Bicycles on roads in Iowa. There is an on-going discussion in Iowa about bicyclists’ use of the roads. Mark Ackelson reports that 17 bikers have been killed in the last 5 years and the drivers all received minor traffic violations. The Lewis and Clark Trail is to involve a combination of off- and on-road sections. Given that, the debate about cyclists’ rights to the roads may come into play.

Staffing balance. Field staff, working to establish and maintain the trail, and office support staff (bookkeeping, office administration, membership, etc.) must be balanced. It is easy to focus on the field staff at the cost of support staff backup necessary to developing and maintaining a trail network.

Local Legitimacy. Some managers of regional trails covering large geographic areas have found it difficult to establish local legitimacy and important local connections. The East Coast Greenway has solved this problem by using State Committees. The committees are made up of volunteers from each state that the ECG travels through. This required the ECG organization to find, organize, and train volunteers. Once this process was completed, the ECG organization transitioned to a support role for the committees. In return, the committees provide important strength in linking the larger organization to local government agencies, and in developing projects across state lines. The state committees also bring legitimacy to the organization, important in building relationships with health groups, local bike clubs, walking groups that provide the necessary support for maintaining the trail.

Dealing with opposition. Trail proponents must seek opinions of everyone, even those who oppose the project. It is important to address opponents and understand and resolve their issues. As mentioned earlier, the ACOE opposed replacing trails with the reconstruction of damaged levees. In the Louisiana case, the Corps did not want to be responsible for projects considered outside its mission. However, if the trail can be billed as serving flood protection or levee inspection purposes, the Corps is generally more agreeable. In Louisiana, the trail was recast as an “all weather access road”.

Promising too much to gain political support. A mistake that was characterized as a “big mistake” by one trail manager is having promised too much in future management responsibilities to gain political support today. He considered it better to build support of local decision-makers and avoid “giving away the store” to gain support quickly.

Cooperation with rural county highway engineers. Rural county highway engineers are challenged by limited budgets, and many are reluctant to use their funds to pave shoulders. Some county highway engineers need more information about funding options and may need to be shown that paved shoulders benefit all highway users.

Board members and funding. Karen Votava of the East Coast Greenway is struggling to run a large organization on a small budget. She has 10 to 11 staff people and a 3,000 mile long greenway to develop and manage. The combination of a small budget, small staff, and big project risks staff burnout. She advises that ongoing project funding strategies be considered early in the process.

The original East coast Greenway board was filled with people who were and are extremely passionate about the greenway, but lacked fundraising connections or skills. While the ECG became a reality project funding did not keep up with the greenway’s growth. Recently, the original board evolved into a “Trails Council” focused on areas within members’ areas of interest or competence. A smaller board focused on fundraising has members with connections to important donors, and an ability to secure donations.

Early achievements. Utilizing established funding sources and resources can build early momentum and extensively contribute to the projects successes. Having a completed segment in place provides opportunities for events, building awareness of the larger project, and helping the public think of the project as an actual route and not as just an abstract concept.

Trail surfacing. John DiMura of the Erie Canal Trail offered advice on trail surfacing. The trail had been using “stone dust” sometimes referred to as limestone screenings. This material while relatively inexpensive to install has maintenance issues. The trail surface washed out at a relatively minor grade of 3 percent, was susceptible to damage by horses, and required steady use to prevent establishment of grasses.

Two years ago, the ECT changed its trail surface policy to favor asphalt as the surface, although stone dust will still be used in some cases. Advantages include:

- Ability to accommodate more uses, and attract users in rural areas where anticipated use might be low otherwise.
- A resurface/regrade frequency of 17 years vs. 9 years for stone dust as per the RTC Northeast Region Rail Trail Maintenance Report.
- Resistance to damage by unauthorized users such as ATV’s, horses, and dirt bikes.



Cover-Pike Cut, Courtesy Mesabi Trail

Successes and Failures

Trail managers shared some of their greatest successes and failures.

Dan Jertres of the MRT in Louisiana. Greatest successes have been in the level to which the trail network is supported and used by local residents. Public reaction to the Corps' original "no trail policy" led other rural parishes to request sections of the trail in their jurisdiction as well.

John DiMura (Erie Canal).

Successes

- Attracting \$25 million in Transportation Enhancements (TE) funds in 2002 to complete major portions of the Erie Canalway Trail and also obtaining millions more in TEP funding prior to that.
- Developing partnerships with Parks and Trails NY (a non-profit working in New York State, www.ptny.org) and the National Park Service: Rivers, Trails and Conservation Program to assist with trail planning and advocacy, and forming a volunteer Canalway Trails Association to support the trail and help with implementing a trail program.
- Completing 170 miles of trail since 1995 by developing easier to build segments first.

Failures

- Underestimating preliminary costs.
- Implementing segments that were too long, leaving isolated problems that held up miles of trail being developed.
- Not adequately dealing with rights-of-way up front on more difficult projects.

Bob Manzoline of the Mesabi Trail.

Successes

- Formulating a cohesive support group representing 22 cities, 3 counties and many Townships.
- Using that support to advance the project through land acquisition, political wrangling, funding, etc.
- Having a dedicated, professional governance body and staff.

Failures

- Underestimating time involved
- Getting side-tracked due to political agendas

Dorian Grilley. Greatest success on the MRT in Minnesota is that the route is being signed in the Metro Area (Minneapolis/St. Paul). MN/DOT has completed the statewide plan for the trail network, and supports seeking funds to implement the route and will automatically upgrade roads with shoulders and signage when needed, and has also committed to maintaining the route.

On the other hand, the lack of political and staff support at MN/DOT for the project has been frustrating. This caused the project to stagnate for more than four years. Also the MRT continues to struggle with the Minneapolis Parks Board, which refuses to sign the route along its trail system, citing historic reasons, sign proliferation and a sense that existing signage is adequate.

Conclusions

- Strong and broad coalitions of support for the project and trail are essential for successful implementation. Awareness of the trail and the planning process is necessary in developing public, financial, and political support for the project.
- Trail development will face many challenges, including signage, geographical distances and local attitudes towards bicycling.
- Implementation should focus on the projects that will be the easiest to realize first, in terms of costs and resources already in place on the ground. Early accomplishments build momentum for the project, helping ensure implementation of later phases.

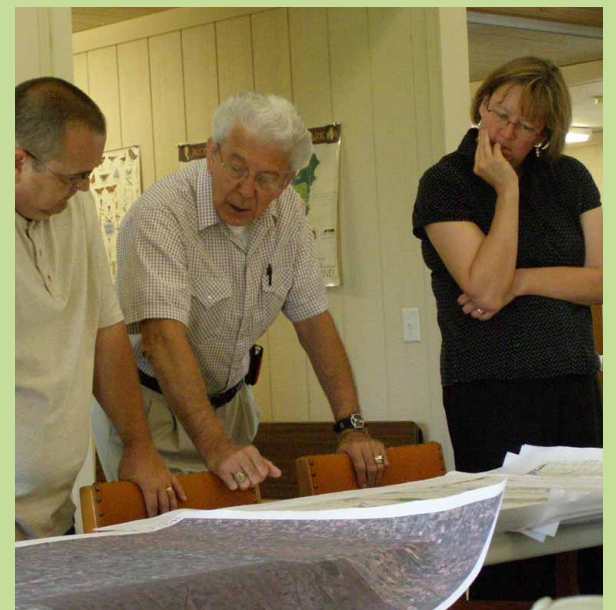
Planning Workshops

In late July, 2009 members of the project team from RDG and Alta set off for a series of public trail planning workshops throughout the Missouri River/Loess Hills region. A series of 13 workshops took place over a four day period, with the first workshop being held in the City of Hamburg.

Residents were asked for their insights in developing the trail, and for suggestions as to the type of resources that the trail network should connect. At the end of each meeting the team traveled by bicycle to the next meeting location, utilizing the information they were provided during the workshop to scout out the trails potential route up to their next meeting location.



Design workshop at the Loess Hills Welcome Center, Percival, Iowa.



Stakeholder Interviews

In initiating the planning process, the project team in cooperation with the Iowa DOT sent out invitations to key stakeholders within the study area requesting their participation as members of the project steering committee. These stakeholders include tourism officials, potential user groups, local chambers of commerce, conservation districts, and state and local public officials. In April, 2009 phone interviews were conducted to welcome them to the planning process and to ask if they would be participating in the process. In addition, stakeholders also were asked to share their concerns and opinions regarding the development of a multi-use trail network along the Missouri River corridor. The following summarizes the findings of these proceedings:

Issue 1: Tourism & Economic Development

- Compared to the rest of the state, western Iowa outside of the metropolitan areas of Sioux City and Omaha/Council Bluffs is underserved with regards to trails and recreational facilities. Many of the rural counties in the study area are home to a number of state parks, vineyards and historical sites, however these sites are not heavily marketed or interconnected through wayfinding systems, and are often overlooked.
- Trails have greatly increased tourism in other locations throughout the state. The idea of allowing for a diversity of uses, would allow for increased tourism. However, there is always the possibility that during planning or implementation of the plan the number of uses for the project will be reduced in order to save on costs. This could in turn limit the amount of economic development that such a project could bring to the region.
- For Missouri Valley the creation of a regional trail network will offer great economic benefits, because it will connect the community in another way to the Omaha/Council Bluffs metro area. Allowing for trail users from Omaha and Council Bluffs to explore more of the region.

Issue 2: Trail Development

- The use of levees for the development of a trail network would be ideal. However, the question arises as to who will be responsible for the maintenance and repair of the trail when it becomes damaged during repairs to the levee system, or by farm machinery crossing between fields.
- Building consensus between property owners and the Iowa DOT is going to be very important. Public lands in Western Iowa are few and far between. For the success of the project it will be important for city and county organizations to work with landowners to develop land trusts, or easements for trail rights-of-ways.
- Awareness of the Lewis and Clark National Historic Trail is fairly limited in the region. The National Park Service owns very little property along the trails routes, and relies on road and trail networks that are already in place. The creation of a regional trail network would increase access to recreational amenities along the Missouri River in Iowa, and would also help to build awareness for the National Trail.
- The State of Iowa does not allow for ATV's or snowmobiles to travel on county and state roads. This makes it difficult for individuals or groups to get from one point to another without having to first load up their ATV's and transport them to the next point.
- There could be contentions that develop between user groups if exiting trail networks are used. The trail may connect the overall system, but not allow all users equal access.

Issue 3: Environmental Considerations

- The Loess Hills is a truly unique environment; however, its ecosystem has changed dramatically since the time of Lewis and Clark. Erosion caused by the overgrowth of forests, and the expansion of urbanization continue to threaten the environment. In preserving the Loess Hills, efforts are being made to create a state of federal land reserve that would limit development within the hills. Besides offering recreational opportunities, a regional trail network could support efforts in preserving the Loess Hill for future generations by increasing public awareness.
- In developing any network of trails that do not make use of public rights-of-way there needs to be some level of concern for native habitat and wildlife. Many times the routes that are ideal for trail development can also be the same routes that wildlife utilizes between habitat areas.



Planning team bicycling between public workshops in southwestern Iowa.

Planning Workshops: July and September, 2009

Trail planning workshops took place on July 27-30 and September 21-25, 2009, in Hamburg, Percival, Glenwood, Council Bluffs, Missouri Valley, Onawa, Sloan, and Sioux City. Much of the conceptual planning for the project took place during these public sessions. During the July meeting, the project team traveled between meeting locations by bike, scouting proposed routes en route. At the September sessions, the team presented preliminary trail routes to the public and gathered additional input and information. During the workshops, participants were asked to identify:

- Potential on- and off-road routes for a non-motorized trail.
- Local and regional amenities and points of interest.
- Visitor services.
- Lewis and Clark interpretive sites and historic locations.
- Areas that could accommodate or serve as links to other recreation uses, such as hiking, off-road vehicle use, equestrian routes, boating routes, etc.
- Other issues/needs related to trail development or use.

In each community, team members explained the project and described the trail as a major spine with connecting loops. Public discussions at each location defined some of the following themes.

Hamburg

- The Hamburg area has few Lewis and Clark related facilities, yet is historically rich.
- Hamburg could promote such themes as steamboat history, home cooking, orchards, antiques, Loess Hills, Carnegie library, quilting, and farming (corn, beans, and popcorn).
- Areas with local historical/literacy importance include Military Hollow, Underground Railroad sites, and Bluff Road.
- Roads west of town should be widened to allow for safer bicycle and pedestrian facilities.
- A shoulder is needed on Bluff Road.

Percival Iowa Welcome Center

- Trail should be a separate, off-road path for safety – key to its success.
- Water sports are needed in the county.
- A larger RV site at Waubonsie State Park would encourage longer stays.
- River access and use should be increased.
- Biking along the levees may be great, but economic development depends on attracting cyclists into towns.
- Wineries are an important resource.
- Attractions in Riverton include Chautauqua, water fowl, and a wetlands loop.

Glenwood

- Demand exists for more equestrian trails with safe parking, campsites, and other features.
- Safe bike trails for families are needed. While roadside trails are safe for older children, they pose risks for young children.
- Trailheads should connect hiking, biking, and canoeing routes.
- Creation of bike loops would allow visitors to travel out from Glenwood on a designed route, bringing them back into the community. This would allow trail users to see the most scenic areas in the area without having to travel the same route back.
- Dedication of a bike shoulder on US 275 would be useful for both tourists and commuters between Glenwood and Council Bluffs.
- The network should connect visitors to the region's natural areas and historic sites. These include Pony Creek Park and archeological preserves.
- The Wabash Trace could serve as an off-road alternative to US 275 to serve tourists and commuters to Council Bluffs.

- Tourist businesses in the area include Mineola Steakhouse, McCormick Store, Silver City Ice Cream Shop, and downtown Malvern.

Council Bluffs

- Possible routes for on-street trail connections in and out of Council Bluffs include North Broadway and the Lincoln Highway to Crescent. The levee north of Bike Lake Park and the Narrows is also a possible route. The Riverfront Trail currently follows this levee between Nash Avenue and the Western Historic Trails Center.
- Connection to Lewis and Clark Monument should be developed. While the roads leading between Big Lake Park and the monument have low traffic volumes, there are no recovery zones and the bends in the road create blind spots.
- The Western Historic Trails Center should be a key focus point for information and activities along the trails system.
- Regional points of interest include Saw Mill Hollow, Small's Orchards, Pisgah, West Oak Forest, Broken Kettle Complex, and Fairmont Park.
- Old Highway 275 was considered an unsafe route for bicyclists because of high traffic volumes and motorists' attitudes.
- While levees are useful for the development of the trail network, there may be constraints to their use. Not all of the levees in the region are owned by public agencies; some are privately owned, built by farmers for flood protection.

Missouri Valley

- The landscape should be part of economic development programs, with the restoration of natural habitats (prairie bottoms and the Loess Hills).
- A Lewis and Clark Trail (LCT) system should include a connection to Logan.
- There is tension with private property owners toward existing bike trails. Some owners view them as underutilized and too expensive.
- Property rights need to be respected in trail development and trails should not divide properties.



Open House - Glenwood, Iowa



- There is a lack of paved trails within the region. Efforts should be made to pave those that already exist.
- The Loess Hills were often mentioned in the writings of Lewis and Clark, and the trail system should help to weave the story of Lewis and Clark with that of the natural history of the Loess Hills.
- Wilson Island and DeSoto Bend should be linked.
- Bike campsites along the route should be created and promoted.
- The Lincoln Highway (US 30) is an important theme within the Missouri Valley region. Bike loops that trace the earlier highway routes would largely be paved and provide insight into the development of the nation's first highway networks.
- Trail routes could potentially follow the base of the bluffs, utilizing poorly drained and un-farmable areas.

Onawa

- Iowa 175 is a poor choice for a bicycle or pedestrian route because of traffic volume. New shoulders along the highway from Onawa to Turin would create a bike-friendly facility.
- The trail should serve the region economically (dollar benefits) and experientially (sights and facilities).
- In order to match the Lewis and Clark story with cycling, the route will cross the valley a number of times; however, this may not be appropriate for spine routes. Day ride "loops" could be created.
- Onawa's good community infrastructure, services, and resources could be increasingly utilized by tourists.
- Good routes for an on-road trail route include K-42, D-25 (Old Iowa 141) Larpenteur Memorial Road, and Onabike loop.
- Alternative routes would need to be created to support multiple trail uses.
- A trail link to Nebraska across the Decatur Bridge could connect tourists to the Blackbird overlook.

- Loess Hills anchors include hospitality association headquarters (Moorhead), nature center (Pisgah), Murry Hill, Preparation Canyon, and Sy Runkin Nature Preserve.
- The Union Pacific property along the Monona County line provides a trail opportunity.

Sloan

- There is limited access to the river in the Sloan area, reducing potential for a continuous trail along the Missouri.
- Many of the roads within the Loess Hills are scenic and have low traffic volume, but lack shoulders.

Sioux City

- Boundary issues created by the changing river course should be addressed by routing.
- Trail connections between Sioux City and Sergeant Bluff are poor and need improvement.
- Wayfinding for the city trail system should be upgraded.
- Improved access to the river and natural areas is needed for active recreation.
- Need ATV/snowmobiling facilities permitting travel through the woods. This market needs both linear trails and parks, with access to motel rooms, food, and services. Legislative issues prevent ATV's from operating on county roads. These could be solved by special designations on unpaved corridors.
- An ATV park on the north side of Sioux City is needed, oriented to families and with an emphasis on safety.
- Improved cycling facilities could increase participation in Siouxland Cyclists.
- There are a considerable number of cyclists who follow the American Cycling Association routes through the Sioux City area.
- Trail theming should be more diverse than just Lewis and Clark. The Siouxland region has a rich history to be explored.

- Connections to South Dakota and the Adams Nature Preserve would provide a link to parklands in other states.
- Trail loops that cross into Nebraska and South Dakota should be considered. The history of Lewis and Clark, and the overall region, occurred on both sides of the river.

Open House: August, 2010

A series of public open houses were held on August 3, 4, and 5, 2010, in Glenwood, Missouri Valley, and Sioux City. These open houses allowed the public to offer additional comments on the final document, and to provide feedback on a potential name for the Lewis and Clark multi-use trail. Given a choice between "Lewis and Clark Trail" and "Bluffs and Bottoms Trail," a majority of the people attending the open houses showed a preference for "Bluffs and Bottoms Trail." A suggestion to call the trail "The Western Explorers' Trail" was also favorably received.

Additional comments from the open house suggested that the trail network be extended up to the Broken Kettle Grasslands in Plymouth County, Iowa, just north of Sioux City.

